

Response to Consultation on Intra-Basin Transfers

There are many definitions of a watershed and watershed boundary in the academic and scientific world (see attached list Appendix B)

All definitions have one parameter in common - they all include the direction of flow of water INTO a basin - and they define the watershed boundary as being the dividing line (height of land) from which water flows in two different directions.

This fact is acknowledged in the Proposal Paper pg. 23 where the definition of watershed is given as being "based on surface water flow".

The watershed map used on Slide 3 of the Public Consultation presentation, and on pg. 23 of the Proposal Paper - shows each Great Lake watershed encompassing the upstream connecting channel only. The downstream channel is shown as part of the watershed of the next (lower) Great Lake. The same delineation between watersheds is given in the US EPA watershed maps. Yet the government is now proposing to redefine watershed to include the downstream channel to meet the Exception Criterion for Return Flow.

Consider the schematic of water flow between two lakes (Appendix A):

The first schematic demonstrates that all water in the watershed is flowing into Lake #1 - except the water in the downstream connecting channel which is flowing toward Lake #2

The hydrology of the system is even more evident when we change the schematic from top view to side (elevation) view. When water enters that downstream connecting channel it is lost to the source Great Lake.

Also lost is the imperative set in the Annex Agreement to look for alternate solutions to the water transfer project when there is an Intra-Basin Transfer without Return Flow.

It is important to ask the question - Why was Return Flow made a criterion for the Exception Standard for Intra-Basin Transfers? What made Return Flow so important?

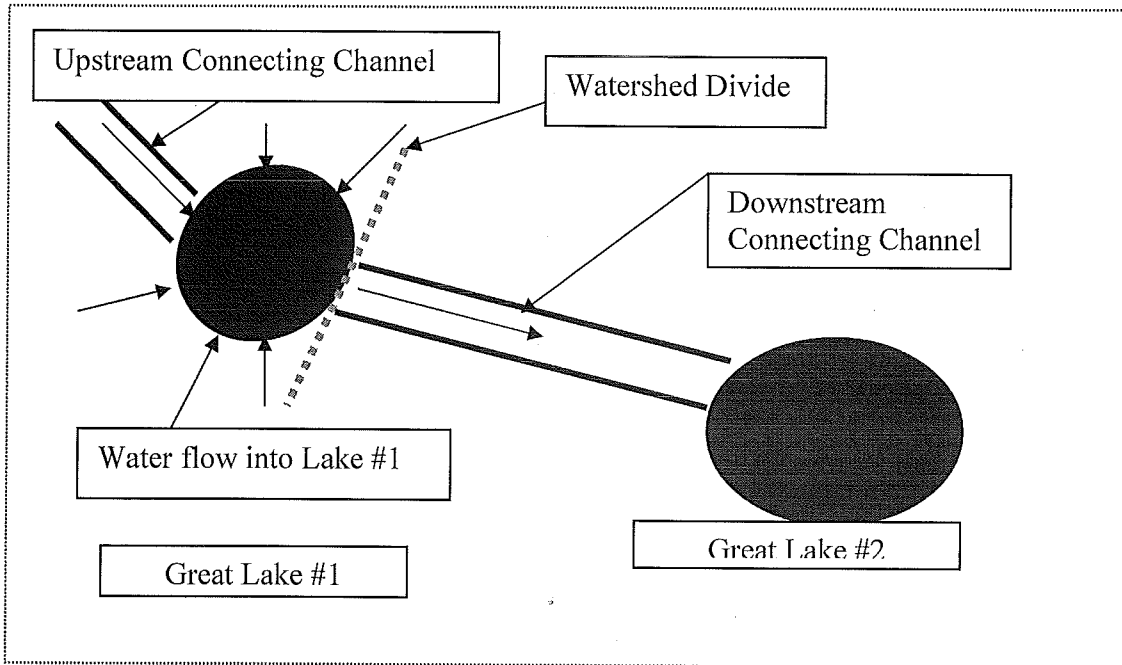
It was TO PROTECT THE VOLUME OF WATER WITHIN EACH GREAT LAKE - TO ENSURE THAT THE WATER RESOURCE WAS SUSTAINABLE.

So that leads to a second important question - What was the rationale for choosing a new definition of watershed that includes the downstream connecting channel in the Annex Agreement - despite the fact that the definition is inaccurate from a hydrological perspective? and What is the rationale for the current Ontario proposal to accept this inaccurate definition and incorporate it into our law?

Even the MOE presenter at the Public Consultation in London admitted that the definition of "watershed" which included the downstream connecting channel was not based on hydrology.

Appendix A

Water Flow into and out of a Great Lake Basin:



Side Elevation:

